



Dart Aerospace Ltd.
1270 Aberdeen St
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D2580-1**Job Sheet 201240****Part No:** D2580-1**Job Qty:** 10 pcs**Part Name:** 205 Bent Tube**Part Weight:** 0 lbs**Status:** New**Priority:** Medium**Job Created:** 9/27/19**Job Tracking No:****Due Date:** 10/21/19**Created By:** Marie Lajeunesse**Type:** Stock**Description:**

Note: DWG D2580 REV h SHEETS 1,2,3,8 IPP B 01.11.08 Revised Step 9, 10, 12, and 13 SM IPP Rev: C 10.12.01
as per DEO D1 DD ver:f:ec

Ship Via:**Bill of Materials****Job Routing**

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Skidtubes - 1	10 pcs	10/21/19		0.00	9.26	Skidtubes - 1		
							Skidtubes - 2		
							Skidtubes - 3		
							Skidtubes - 4		
							Skidtubes - 5		
							Skidtubes - 6		
							Skidtubes - 7		
101	QC 5	10 pcs	10/21/19		0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		
110	Handfinish - 1-1 Chemical-B4B	10 pcs	10/21/19		0.00	4.17	Handfinish - 1 - 1 - B4B		
							Handfinish - 1 - 2 - B4B		
							Handfinish - 1 - 3 -		



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Container No: S224585**Part:** D2580-1**Job No:** 201240**Serial No/Batch:** S224585**Revision:** H**Inspector:****Exp Date:****Instructions:** Various STC's**Date:** 10/21/19

Plex 9/27/19 12:51 PM Dart.lajeunesse.marie

				B4B	
				Handfinish - 1 - 4 - B4B	
				Handfinish - 1 - 5 - B4B	
				Handfinish - 1 - 6 - B4B	
				Handfinish - 1 - 7 - B4B	
				Handfinish - 1 - 8 - B4B	
				Handfinish - 1 - 9 - B4B	
				Handfinish - 1 - 10 - B4B	
				Handfinish - 1 - 11 - B4B	
				Handfinish - 1 - 12 - B4B	
				Handfinish - 1 - 13 - B4B	
				Handfinish - 1 - 14 - B4B	
				Handfinish - 1 - 15 - B4B	
				Handfinish - 1 - 16 - B4B	
				Handfinish - 1 - 17 - B4B	
				Handfinish - 1 - 18 - B4B	
				Handfinish - 1 - 19 - B4B	
				Handfinish - 1 - 20 - B4B	
				Handfinish - 1 - 21 - B4B	
				Handfinish - 1 - 22 - B4B	
120	QC 7	10	10/21/19	0.00 0.00	QC 7 - 10
		pcs			QC 7 - 13
					QC 7 - 14
					QC 7 - 15
					QC 7 - 17
					QC 7 - 18
					QC 7 - 19
					QC 7 - 2
					QC 7 - 28
					QC 7 - 3
					QC 7 - 30
					QC 7 - 34
					QC 7 - 36
					QC 7 - 37
					QC 7 - 41
					QC 7 - 47
					QC 7 - 48
					QC 7 - 51
					QC 7 - 58
					QC 7 - 59
					QC 7 - 60
					QC 7 - 9
					QC 7 - 68
					QC 7 - 50
				Plex 9/27/19 12:51 PM Dart.lajeunesse.marie	

					QC 7 - 67	
					QC 7 - 40	
					QC 7 - 24	
					QC 7 - 43	
					QC 7 - 61	
					QC 7 - 81	
					QC 7 - 76	
125 Skidtubes - 2 - B4B	10 pcs	10/21/19	0.00	9.26	Skidtubes - 1 - B4B	
					Skidtubes - 2 - B4B	
					Skidtubes - 3 - B4B	
					Skidtubes - 4 - B4B	TF
					Skidtubes - 5 - B4B	
					Skidtubes - 6 - B4B	
					Skidtubes - 7 - B4B	
130 QC 5	10 pcs	10/21/19	0.00	0.00	QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	BF
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	
					QC 5 - 40	
					QC 5 - 61	
					QC 5 - 81	
140 Packaging 3-1 - Stock - B4B	10 pcs	10/21/19	0.00	0.00	Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
						Plex 9/27/19 12:51 PM Dart.lajeunesse.marie

				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	TF
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
150 QC 21 - SA	10 pcs	10/21/19	0.00 0.00	QC 21 - SA - 21	DAS NOV 29 2019
				QC 21 - SA - 70	21
				QC 21 - SA - 53	53

Part Op 100 - (Skidtube) 1- Inspect mat'l D2500-1-190 for damage. 2-Drill pilot holes using drill jig DT 8149 A-BC-D 3-Open holes Descriptions: to 0.508" as per Dwg D2580 4-Debur holes per QSI002 section 4.2.3 and blow out all chips from inside of tube 5- Test fit inspection saddles on FWD & AFT saddle holes using DT9916.

101 - (QC5- Inspect part completeness to step on W/O)

110 - (Chemical Conversion Coat per QSI005 4.1)

120 - (QC7-Inspect Chemical Conversion Coat)

125 - (Skidtube) 1- Bond web in place per QSI 015. A/R Sikaflex-291 batch: 5231095 Sikaflex expire date: Nov 28/19 8:40 Start time and date: Nov 28/19 8:40pm bond for 12hrs

130 - (QC5- Inspect part completeness to step on W/O)

140 - (Identify as per dwg & Stock Location: LG002) LOCATION : LG002

150 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2500-1-190	Ext'n -I' Beam Tube 4"	10 pcs (1 ea)	100-Skidtubes - 1	5160371
D2596	Web, 205 Skidtube	10 pcs (1 ea)	125-Skidtubes - 2 - B4B	5211633 x4 5220732 x6

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Skidtubes - 1	D2500-1-190	10	122	0
125-Skidtubes - 2 - B4B	D2596	10	12	0

Part Specifications

Specifications could not be found.

ITEM	QTY	QTY	QTY	QTY	PART NUMBER	DESCRIPTION
1	X	-041	-047	-048	D2880-041	SHOULDER ASSEMBLY
2					D2880-045	SHOULDER ASSEMBLY
3			X		D2880-047	SHOULDER ASSEMBLY
4				X	D2880-048	SHOULDER ASSEMBLY
20	1	1	1	1	D2880-1-180	EXTRUDER
21			10	10	D2870	BUSHING
22	1	1	1	1	D2878-3	STEP
23			4		D2870	SPACER
24	16	16	8	8	D2884-1	PLUG
25	16	16	8	8	D2884-3	O-RING
26	1	1	1	1	D2880	208 WEB
27	1	1	1	1	D2885	AFT CAP
28	1	1	1	1	D2884-4	WEARSHOE
29	1	1	1	1	D2884-9	WEARSHOE
30	1	1	1	1	D2884-11	WEARSHOE
31	1	1	1	1	D2884-13	WEARSHOE
32	20	20	24	24	D4002-1	SPACER
33			1	1	D4002-041	WEARPLATE ASSEMBLY
34			1	1	D4002-043	WEARPLATE ASSEMBLY
35			1	1	D2881-1	FRD WEARPLATE
36			1	1	D2881-3	AFT WEARPLATE
60	50	50			AL37-1032-130 or AK57-1032-130 or AK54-1032-130 or AKLS-1032-130	INSERT
61	50	50			AN504A	BOLT
62	2	2	2	2	AN50-5A	BOLT
63			6	6	ANL-5A	BOLT
64	50	50			NA511400352R	WASHER (AN500310L)
65	2	2	2	2	NA511400352J	WASHER (AN500310L)
66			8	8	NR51042-4	NUT (OR NR51042L4)

H

GENERAL NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2884 WEB POWDER COAT (-041-047-048) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) BLACK WITH SKID PAINT AS INDICATED PER DART QSI 005 4.4.
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 5) LIMITS: INCHES UNLESS OTHERWISE NOTED.
- 6) BREAK SHARP EDGES: 0.006 TO 0.010 MAX.
- 7) IDENTIFICATION: NONE
- 8) WEIGHT: D2880-041 = 53.7 lbs
D2880-045 = 53.7 lbs
D2880-047 = 45.1 lbs
D2880-048 = 52.0 lbs
- 9) WELDING PER DART QSI 004.
- 10) INSERT D2886 WEB TO LOCATION SHOWN OFF AFT END OF SHOULDER AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-341 ADHESIVE PER DART QSI 016 BEFORE BONDING. ENSURE HOLES LINE-UP.
- 11) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 80 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 12) USE DART DRILL TEMPLATE DT8217 & DT8237 ONLY FOR D2880-041/045 TO LOCATE AND DRILL 20/327 HOLES FOR WEARSHOE INSERTS. INSTALL AL37-1032-130 PER SECTIONS B-B AND F-F (60 PLACES) AFTER FINISH. INSTALL AN504A BOLTS AND NA511400352R WASHERS WITH SIKAFLEX-341/391.
- 13) INSERT D2884-1 PLUG C/W D2884-3 O-RING IN HOLES MARKED "P" (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2880-041/045 AND 8 PLACES FOR D2880-047/048).
- 14) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2886 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

H

REV.	DESIGN	DESCRIPTION	DATE
H	DS	SHEET: PL DELETE D2886-1/4-13 GASKETS, WEIGHTS UPDATED ACCORDINGLY. SHEETS 2 & 4 PICTORIAL UPDATE FOR REMOVAL OF GASKETS	17.06.09
G	SAD	ADDED -048 -047 WEIGHT UPDATED PER DSI 9088	14.04.09
F	DC	INCORPORATE D280 D2880-E-1 PER PART 2-216	13.06.20
E	RF	ADD D2880-047 (2N C4-7) AND D2880-7 (2N B5-0); INCLUDED D2880-1-1; REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8237 WAS TO2877-208 (2N C4-1)	11.06.21
D	PH	CHANGE TO S3 WEARPLATES AND GASKETS, INCLUDE DED 8124/9183	07.04.09
C	CP	REDRAWN, INCLUDED DED 9084/007	06.06.28
B	DS	AS MANUFACTURED	06.12.02
A	DS	NEW ISSUE	06.06.10
REV.	DESIGN	DESCRIPTION	DATE
DESIGN	DS	DART AEROSPACE LTD HAMMERSLEY, ONTARIO, CANADA	
CHECKED	SAD	DRAWING NO.	REV. H
MFG. APPR.	DS	D2880	SHEET 1 OF 9
APPROVED	DS	TITLE	SCALE
DE APPR.	DS	205 SKIDTUBE ASSEMBLY	NTR
DATE	17.06.09		

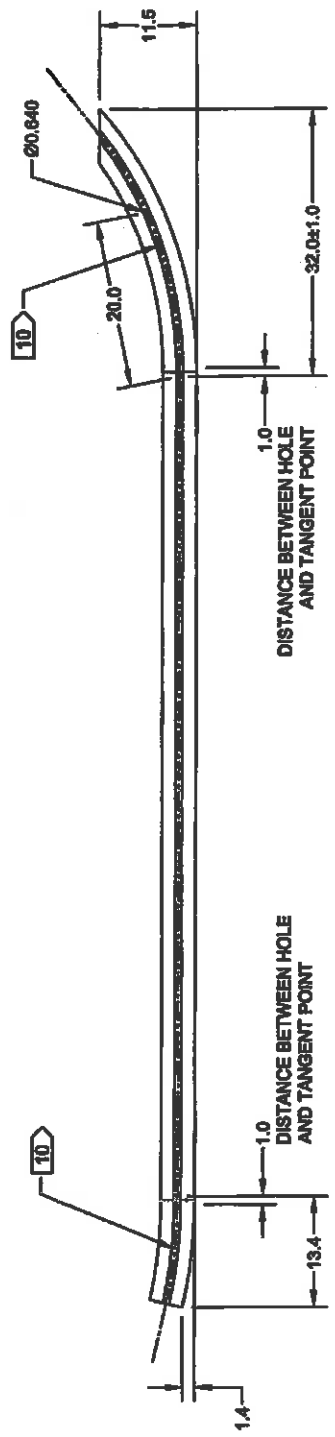
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2017 JUL 05 14
5017-501

NO. 201240 MJS
19-09-27

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UNCONTROLLED COPY
SUBJECT TO A LATER NOTICE
WITH A LATER NOTICE
WORK ORDER

1 2 3 4 5 6 7 8

D C B A



D2580-1 BENT TUBE
(MAKE FROM D2580-101 TUBE)

RELEASED
2017 JUL 05

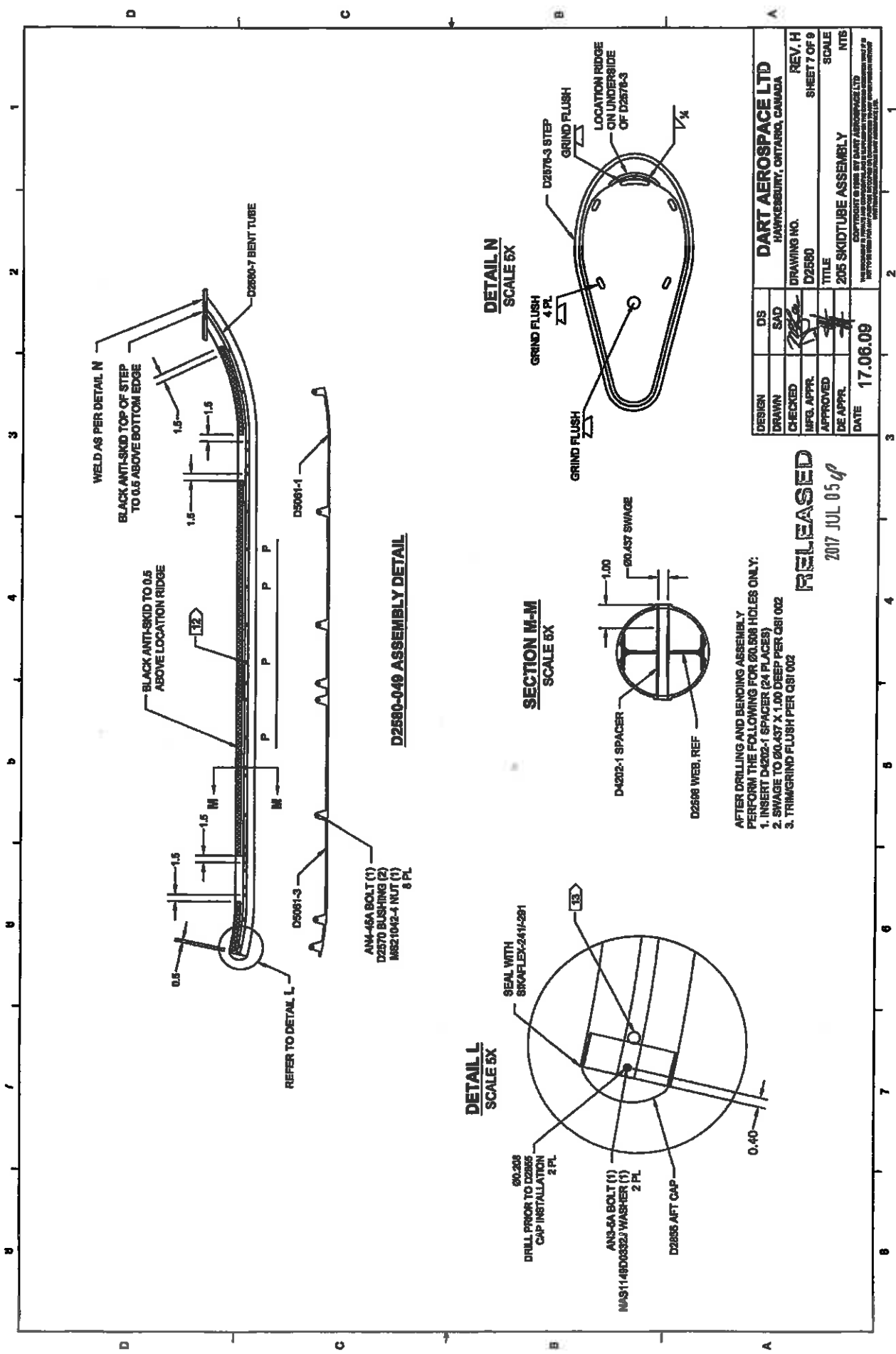
DESIGN	DS	DART AEROSPACE LTD
DRAWN	SAD	HAWTHORNE, ONTARIO, CANADA
CHECKED		DRAWING NO. D2580
INFO. APPR.		REV. H SHEET 3 OF 9
APPROVED		TITLE 206 SKIDTUBE ASSEMBLY
DE APPR.		SCALE NTS
DATE	17.06.09	Copyright © 1999 by DART Aerospace Ltd. This drawing is the property of DART Aerospace Ltd. and is not to be used for any other purpose without the written consent of DART Aerospace Ltd.



PLEASE READ

2017 JUL 05 4P

DESIGN	DS	DART AEROSPACE LTD HAWTHORNSURRY, ONTARIO, CANADA DRAWING NO. D25580 REV. H SHEET 8 OF 9 SCALE NTS 205 SKIDTUBE ASSEMBLY CONFIRMED BY 6888 BY DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED BY 6888 ON 08/21/2013. FOR INFORMATION ONLY.
DRAWN	SAD	
CHECKED		
INFO. APRR.		
APPROVED		
DS APRR.		
DATE	17.06.08	

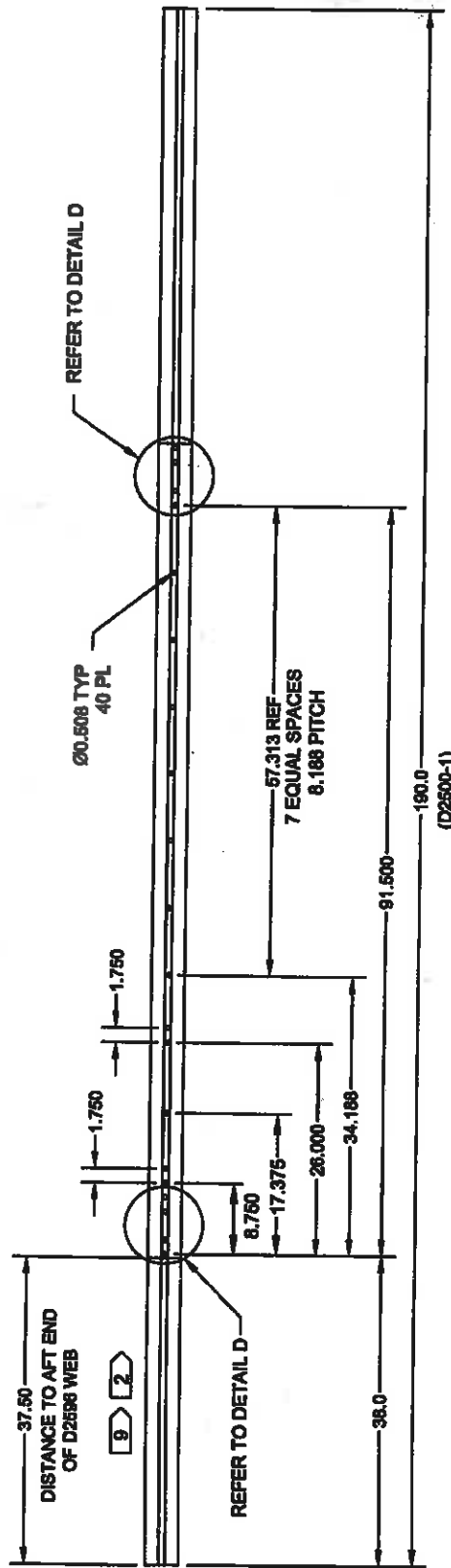


AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR 60.508 HOLES ONLY:

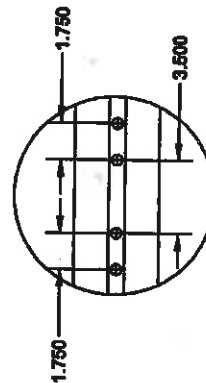
1. INSERT D402-1 SPACER (24 PLACES)
2. SWAGE TO 60.437 X 1.00 DEEP PER Q81 002
3. TRIM GRIND FLUSH PER Q81 002

RELEASED
 2017 JUL 05/0

DESIGN	DS	SAD	DART AEROSPACE LTD HARRISBURG, ONTARIO, CANADA
DRAWN	SAO		
CHECKED			
INFG. APPR.			
APPROVED			
DE APPR.			
DATE	17.06.09		
DRAWING NO.	D2580	REV. H	SHEET 7 OF 9
TITLE	205 SKIDTUBE ASSEMBLY	SCALE	NTB
DART AEROSPACE LTD 10000 HWY 100, UNIT 100, HARRISBURG, ONTARIO, CANADA TEL: (905) 881-1111 FAX: (905) 881-1112			



D2580-101 TUBE



DETAIL D
SCALE 5X

RELEASED
2017 JUL 05

DESIGN	D8	DART AEROSPACE LTD
DRAWN	SAD	HARTSBURY, ONTARIO, CANADA
CHECKED	REV. H	REV. H
MFG. APPR.	D2580	DRAWING NO.
APPROVED	205 SKIDTUBE ASSEMBLY	TITLE
DATE	17.06.09	SCALE
		NT8

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Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐



Job: _____ Part No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐		DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Eng. (Non-AW) ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Large Fab ☐ Finishing ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐				MRB (QS1042)																													
Date: _____		Sequence #: _____		QTY Affected: _____		Disposition																															
Description Work Order Deviation				Completed By																																	
				Lead hand / Supervisor																																	
				QC / QA Coordinator																																	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY <table border="1"> <tr> <td>Pressure/Forced</td> <td>Contamination</td> <td>Power Loss/Surge</td> <td>Positioned Wrong</td> </tr> <tr> <td>Bending</td> <td>Misaligned/off center</td> <td>Folio/Program</td> <td>Outside Tolerance</td> </tr> <tr> <td>Crushing</td> <td>BOM/Route</td> <td>Grain Direction</td> <td>Drawing</td> </tr> <tr> <td>Cracks</td> <td>Broken/Damage/Defect</td> <td>Weld</td> <td>Finish</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave/Twist</td> <td>Incomplete/Unclear Instructions</td> <td>Wrong Stock Pulled</td> <td>Part Lost/Missing</td> </tr> <tr> <td>Marks/Chatter</td> <td>Drill Holes</td> <td>Out of Sequence</td> <td>Misread</td> </tr> <tr> <td>Mislabeled</td> <td>Fit/Function</td> <td>Off-set/Set-up</td> <td></td> </tr> </table>								Pressure/Forced	Contamination	Power Loss/Surge	Positioned Wrong	Bending	Misaligned/off center	Folio/Program	Outside Tolerance	Crushing	BOM/Route	Grain Direction	Drawing	Cracks	Broken/Damage/Defect	Weld	Finish	Crimp/Kink/Ripple/Wave/Twist	Incomplete/Unclear Instructions	Wrong Stock Pulled	Part Lost/Missing	Marks/Chatter	Drill Holes	Out of Sequence	Misread	Mislabeled	Fit/Function	Off-set/Set-up	
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		Other/Details:																																			